REMARKS

Claims 3-6, 8-10, 12 and 14-16 have been amended to remove multiple dependencies. Claim 6 was also amended to correct a minor informality. Applicant believes that no additional fees are due upon filing this Amendment, however, should the Commissioner determine that additional fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 50-0388.

Respectfully submitted,
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MARKED UP VERSION SHOWING CHANGES MADE

3. (Once Amended) A method according to claim 1 [or claim 2] in which the relationship equates to $-\ln(R/R_o)$, where R is the rate at which the emissions are detected with the sample in place and R_o is the rate of emissions which would be detected without the sample in place.

4. (Once Amended) A method according to [any preceding] claim **1** in which the characteristic determined is a function of the density of the sample.

5. (Once Amended) A method according to [any preceding] claim **1** in which the characteristic is a function of the effective amount of material in the sample relative to one or more other samples.

6. (Once Amended) A method according to [any preceding] claim **1** in which the determination of the characteristic is based on the equation:-

$$R = R_o \exp(-\mu\rho x)$$

[where] where R is the rate at which the emissions are detected with the sample in place and R_o is the rate of emissions which would be detected without the sample in place; μ is the mass attenuation coefficient; x is the thickness of the sample (between source and detector); and ρ is the density of the sample.

8. (Once Amended) A method according to claim 6 [or claim 7] in which x is kept constant by fixed relative generator, detector and sample positions.

9. (Once Amended) A method according to [any of claims 6 to 8] **claim 6** in which μ is substantially constant due to the energy of the generator emissions.

10. (Once Amended) A method according to [any preceding] claim **1** in which the characteristic is a function of the effective amount of material in a sample and the amount of material in a sample is a function of the effect on transmission of generator emissions by that sample, the total amount of material being proportional to the effects of all the samples, the fraction of the total material in a particular sample being a function of that sample's effect on transmission to the sum of all the effects.

12. (Once Amended) A method according to claim 10 [or claim 11] in which the amount of material in a sample, Vs, equates to:- $-\ln(R/R_o)$.

14. (Once Amended) A method according to claim 12 [or claim 13] in which the fraction of the body of material in a given sample is $Vs/\sum Vs$.

15. (Once Amended) A method according to [any preceding] claim **1** in which the characteristic is determined based on a number of variables including one or more of, and ideally all of, :-

I) the total mass of the body of material, M;

ii) the total volume of the body of material, V;

iii) the total number of samples forming the body of material, N;

iv) the amount of material in a given sample, Vs;

v) the sum of all the values proportional to the amounts of material in the sample volumes, $\sum Vs$;

vi) the density of the sample.

16. (Once Amended) A method according to[any preceding] claim 1 where the characteristic is determined based on the equation:-

$$\rho = (N.M/V) \cdot (Vs/\sum Vs)$$